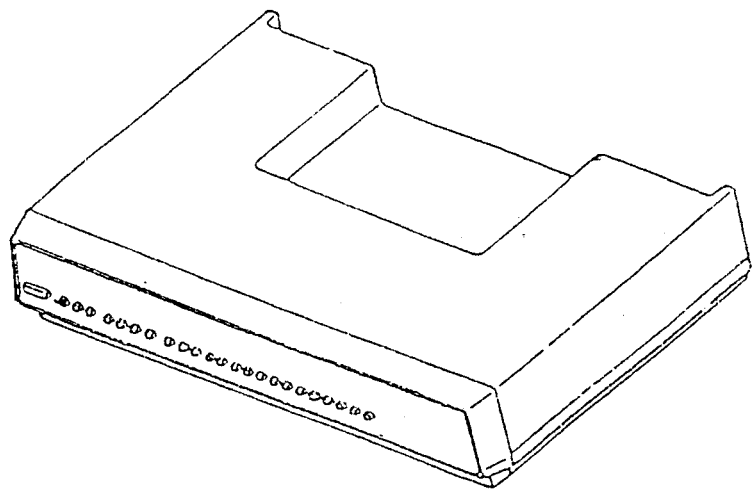
Service Manual

ORIGINAL VERSION

SATELLITE RECEIVER

AMSTRAD FIDELITY

MODEL SRX200



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ALIGNMENT INSTRUCTIONS

DC 12V ADJUSTMENT

1. Receive the ASTRA 8 ch.
2. Connect the hot of the DC voltmeter to TP502, and the cold to TP505.
3. Adjust VR502 for DC 12V±0.1V.

DC 5V ADJUSTMENT

1. Receive the ASTRA 8 ch.
2. Connect the hot of the DC voltmeter to TP501, and the cold to TP505.
3. Adjust VR501 for DC 5V±0.1V.

LNB B+(13V, 17V) ADJUSTMENT

1. Receive the ASTRA 8 ch.
2. Connect the set to LNB.
3. Connect the hot of the DC voltmeter to TP504, and the cold to TP505.
4. Adjust VR503 for DC 13V±0.1V.
5. Adjust VR504 for DC 17V±0.1V.

OFF SET ADJUSTMENT

NOTE: The set should be supplied with the power more than 10 minutes before the adjustment.

1. Short-circuit the 18 and 19 pins on IC101 and earth them before turning the power ON.
2. Turn the power ON.
3. Receive the ASTRA 8 ch.
4. Connect the hot of the DC voltmeter to TP102, and the cold to TP505.
5. Adjust VR101 for DC 6.6V±0.1V.
6. Return the portions short-circuited in step 1 to their former state.

VIDEO LEVEL ADJUSTMENT

1. Receive the ASTRA 8 ch.
2. Connect the oscilloscope to TP701 and GND to TP505.
3. Connect a 75 ohm resistor between 19 pin of 21 pin connector and GND.
4. Adjust VR701 for 1V±0.05Vp-p on the video signal level.

H.F PEAK ADJUSTMENT

1. Receive the ASTRA 8 ch.
2. Connect the oscilloscope to TP701 and GND to TP505.
3. Connect a 75 ohm resistor between 19 pin of 21 pin connector and GND.
4. Adjust TC701 for 500mV±20mVp-p on the video signal level.

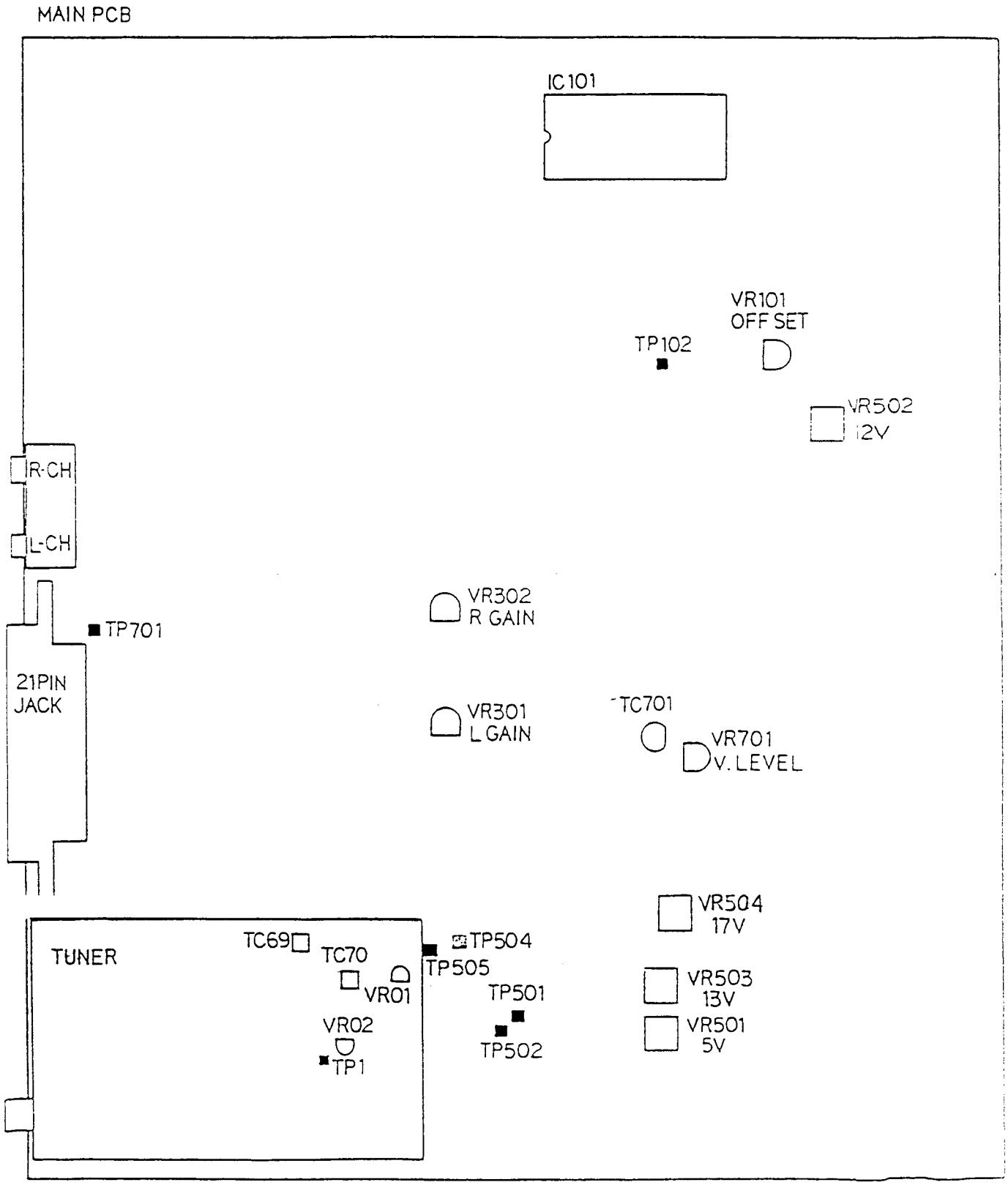
AUDIO GAIN ADJUSTMENT

1. Receive the ASTRA 8 ch.
2. Connect an AC voltmeter to both L-ch and R-ch on the audio jack. (Terminate the input jacks on the AC voltmeter at 47K ohm.)
3. Adjust VR301 (L-ch) and VR302 (R-ch) for AC 1.06V ±0.05Vrms.

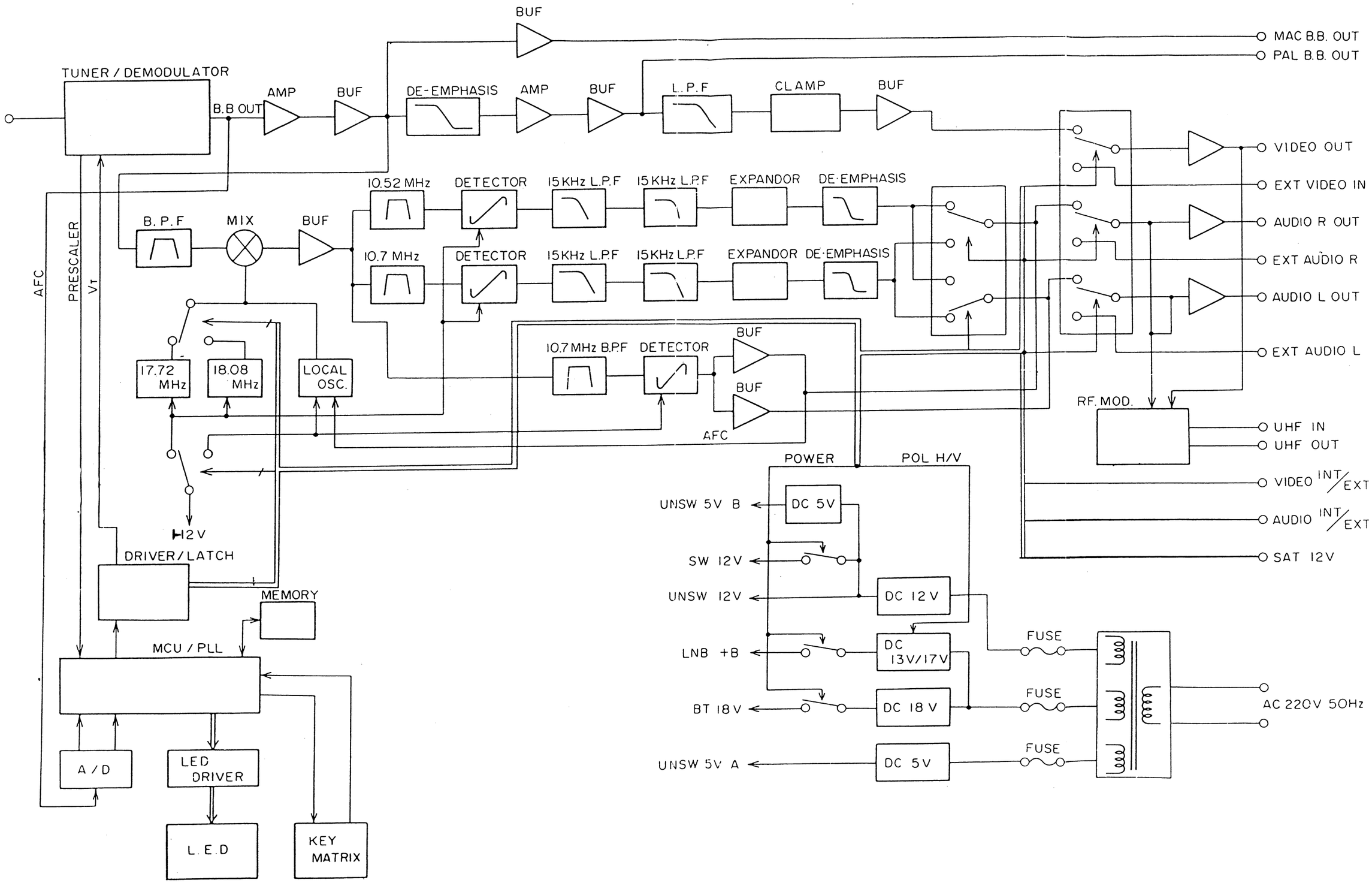
TUNER PCB ADJUSTMENT

1. Connect a Tuner to receiver test jig.
2. With NO signal input and PAL THRESHOLD EXT. SW to OFF position.
3. Adjust VR02 for DC 8.5V at IP1.
4. Loosecouple spectrum analyser to LO and adjust TC70 to center blip on 240 MHz.
5. Adjust TC69 for DC 6.2V at demodulator output.
6. Adjust VR02 for DC 5.2V at IP1.
7. Apply PAL Color Bar modulated signal at 1317.5 MHz, -45 dBm, carrier to noise ratio 7 dB in 27 MHz Band width.
8. PAL THRESHOLD EXT. SW to ON position.
9. Adjust TC69 for correct video polarity and maximum video signal amplitude at receiver output. (with oscilloscope)
10. Adjust TC70 for equal balance of Balck and White sparkles. (with TV monitor)
11. Adjust VR01 for minimum at 4.43 MHz color subcarrier (with oscilloscope)
12. Apply 5 stairsteps modulated signal at 978.25 MHz, -35 dBm, carrier to noise ratio 12 dB in 17 MHz Band width.
13. PAL THRESHOLD EXT. SW to OFF position.
14. Adjust TC69 for optimum video linearity. (with oscilloscope 4.43 MHz BPF)

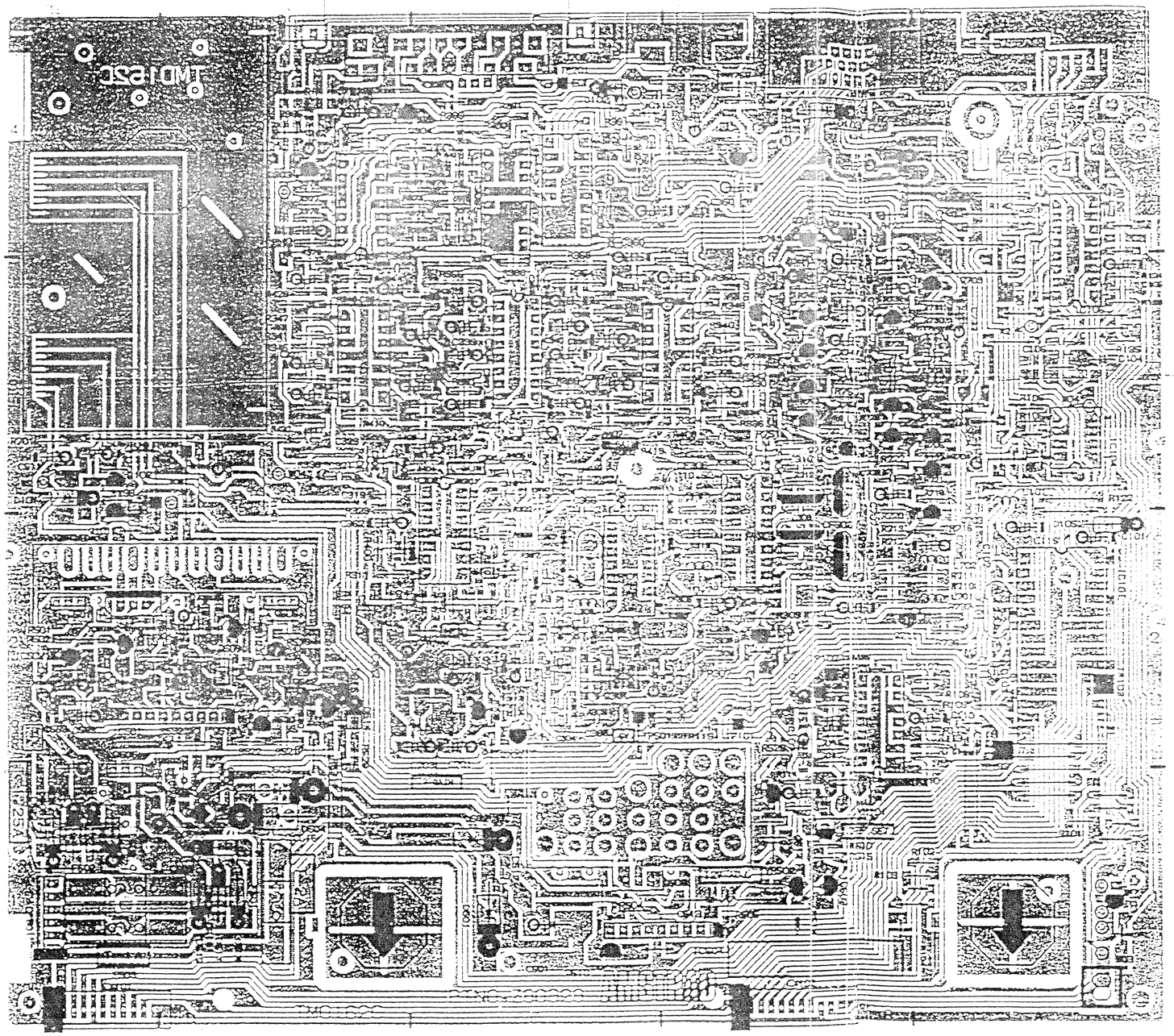
MAJOR COMPONENTS LOCATION GUIDE



FUNCTION BLOCK DIAGRAM

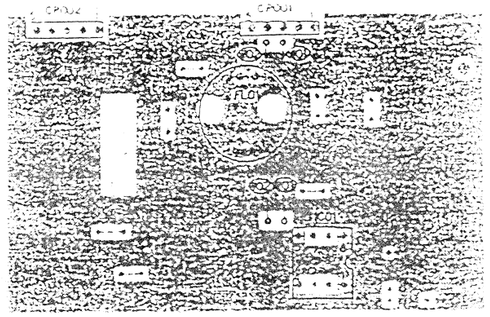


MAIN P.C.BOARD



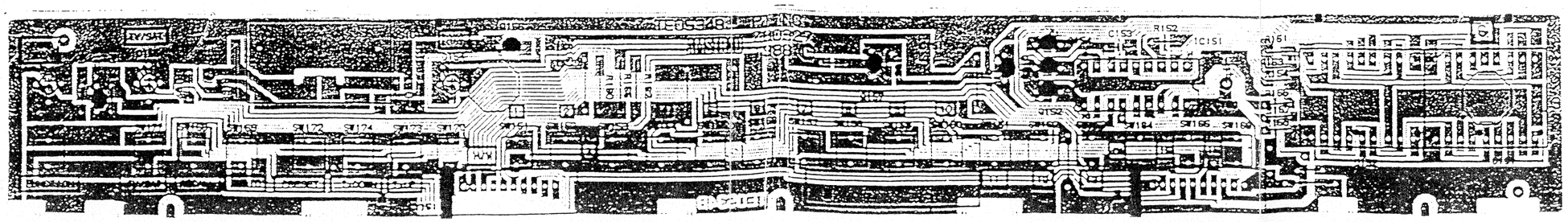
TUNER P.C.BOARD

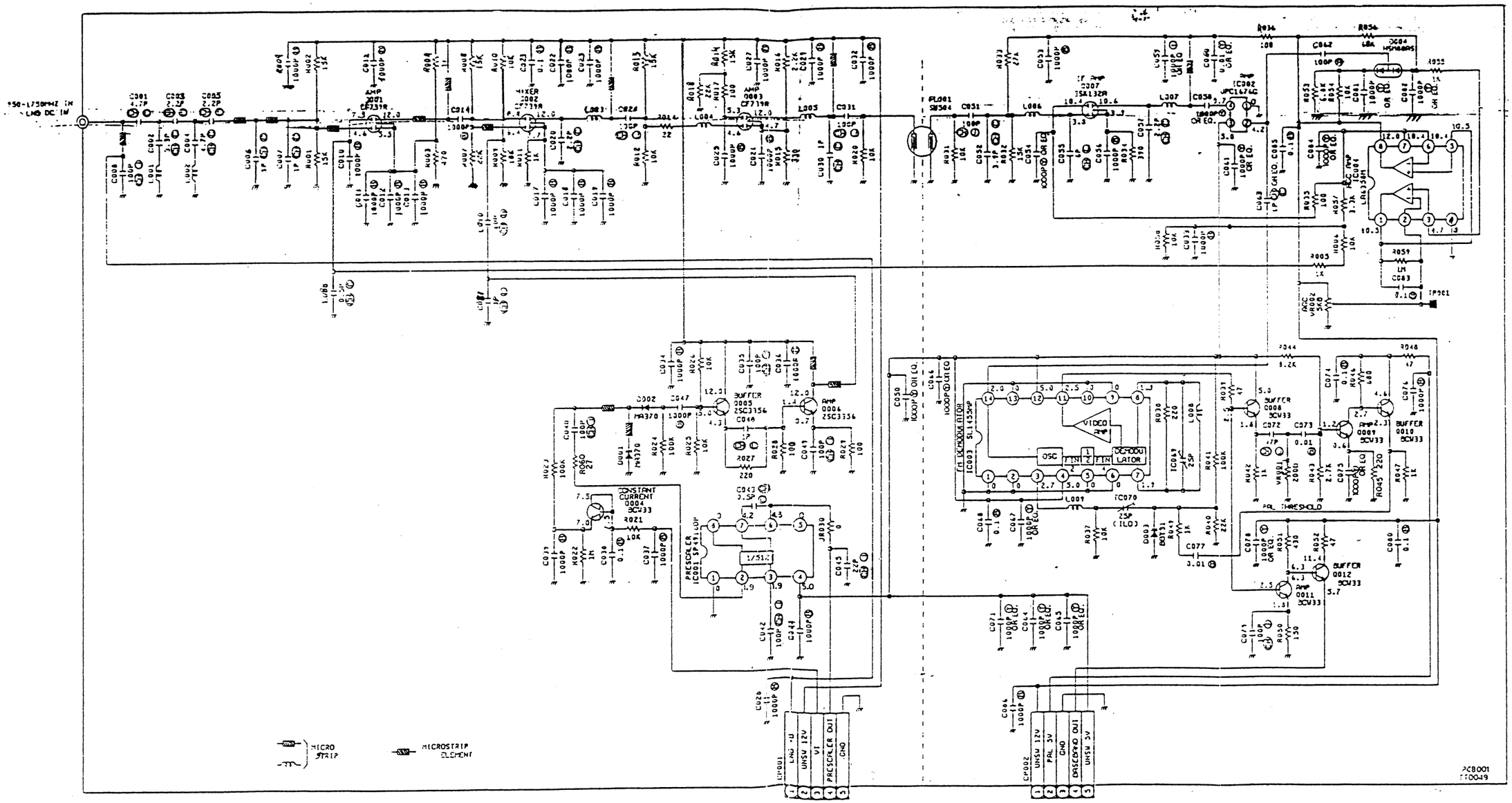
TOP



BOTTOM

CONTROL P.C.BOARD

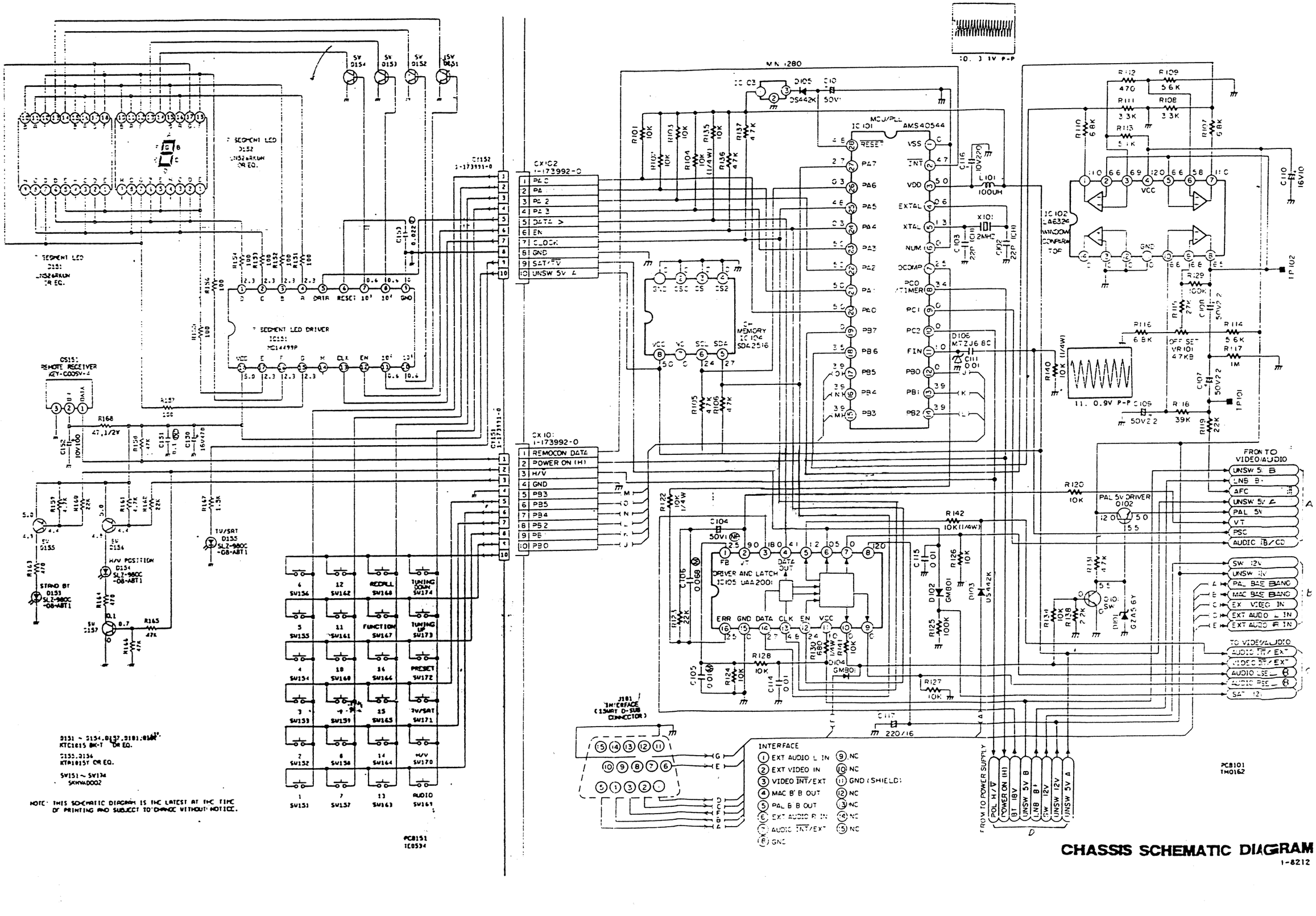




NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

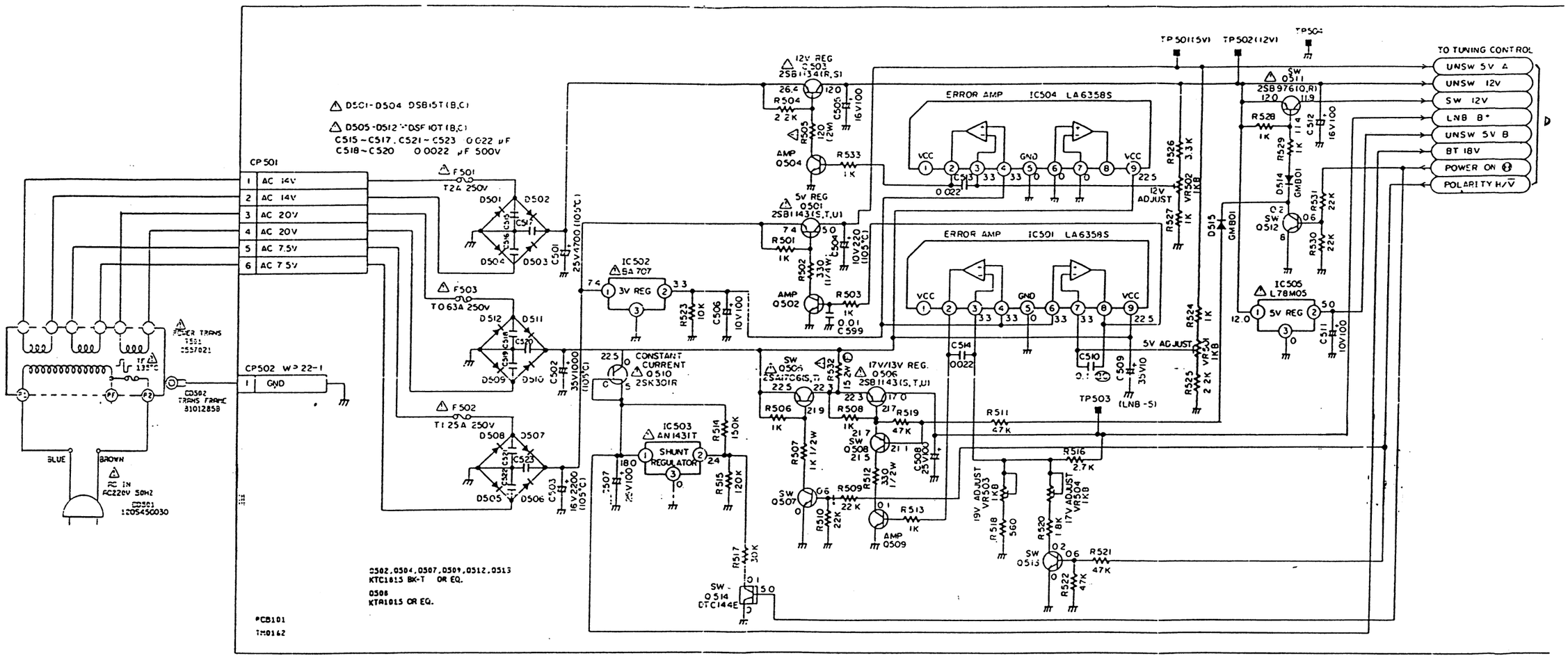
CHASSIS SCHEMATIC DIAGRAM

1-8132



CHASSIS SCHEMATIC DIAGRAM

1-8212



Q502, Q504, Q507, Q509, Q512, Q513
2SC1740
Q508
2SA933

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

ATTENTION LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

NOTE THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CHASSIS SCHEMATIC DIAGRAM

1-8212

NOTE F, G, H, I AND J MARKED AROUND THE PARTS IN THE SCHEMATIC DIAGRAM INDICATES THE FOLLOWING ERROR RATE
F ±1%, G ±2%, H ±3%, I ±4%, J ±5%

NOTE THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

IC304 . IC305 . IC306

WEGENER PANDA I

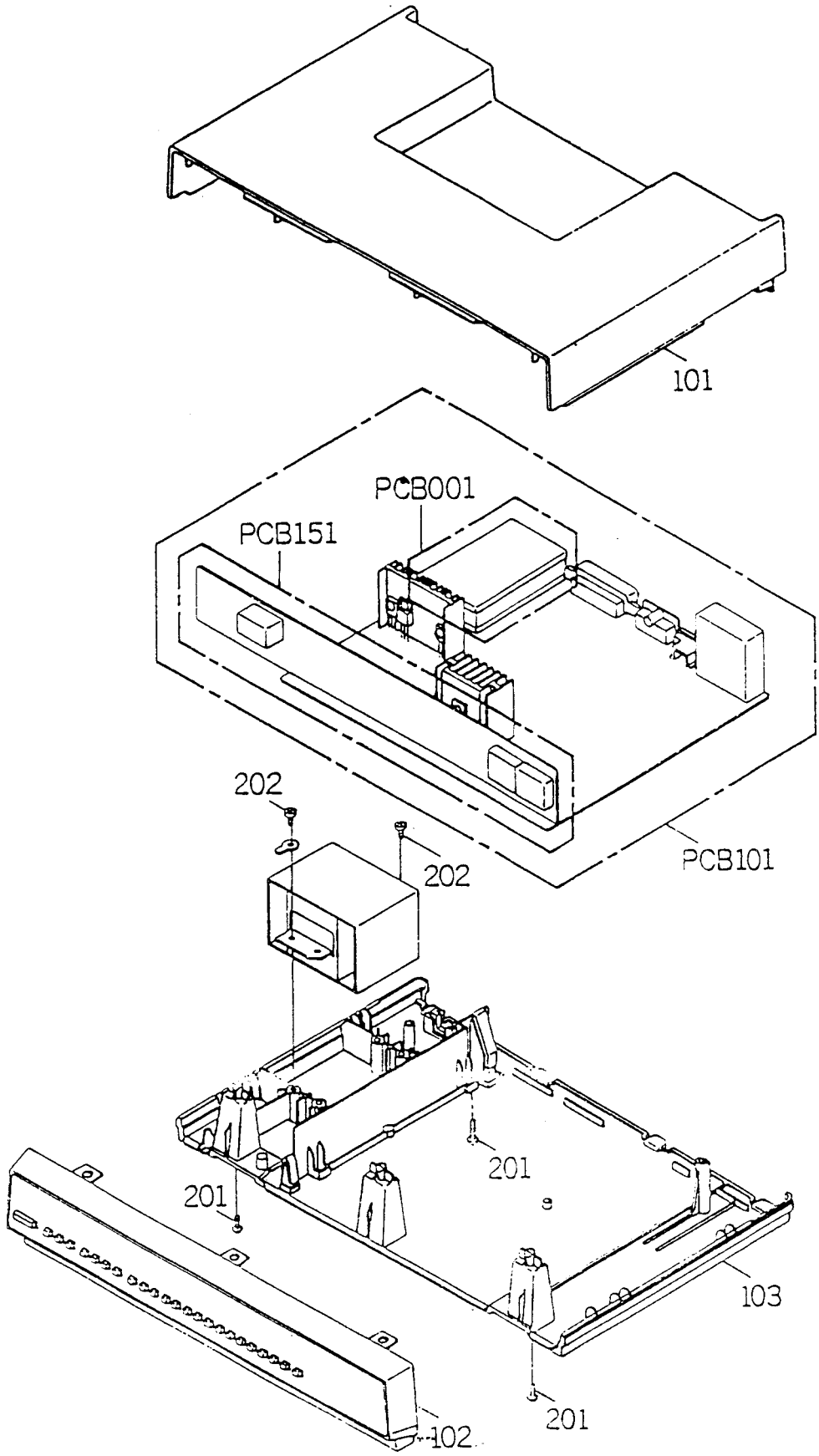
Q719, Q718, Q303, Q304
KTC1815 BK-T OR EQ.

PCB101
TH0162

CHASSIS SCHEMATIC DIAGRAM

E-8134

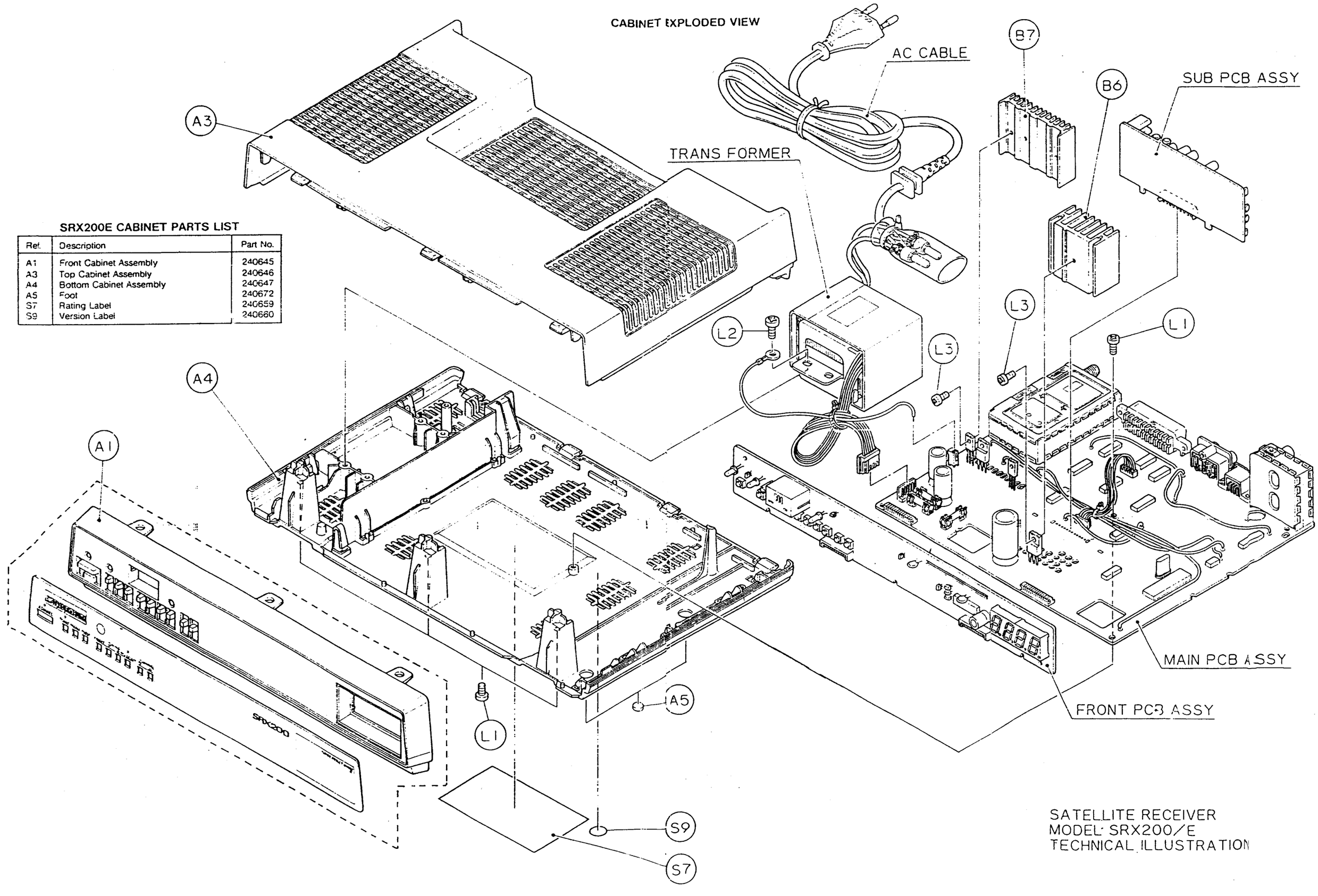
MECHANICAL EXPLODED VIEW



CABINET EXPLODED VIEW

SRX200E CABINET PARTS LIST

Ref.	Description	Part No.
A1	Front Cabinet Assembly	240645
A3	Top Cabinet Assembly	240646
A4	Bottom Cabinet Assembly	240647
A5	Foot	240672
S7	Rating Label	240659
S9	Version Label	240660



SATELLITE RECEIVER
MODEL SRX200/E
TECHNICAL ILLUSTRATION

SRX200E ELECTRICAL PARTS LIST

Ref.	Description	Part No.
IC's		
IC101	IC AMS40544	240354
IC102, 303, 305-307	IC BA10324 or LA6324	240023
IC103	IC MN1280	153292
IC104	IC SDA2516	240018
IC105	IC UAA2001	240019
IC151	IC MC1449P 7 Segment LED Driver	AMS40249
IC302	IC TBA229-2	240355
IC304	IC NE572N	240024
IC308, 309	IC MC14053BCP or TC4053BP	240025
IC501, 504	IC LA6358S	240015
IC502	IC BA707	171481
IC503	IC AN1431	240028
IC505	IC L78M05	190063
IC801	IC CMOS BU4011B or NJM4011BD	240673
IC802	IC TBA120T	240674
Diodes		
D101	DI Zener GZA5.6 YB	202190
D102, 104, 514, 515	DI High Speed Switching GMB01B	240540
D103, 105	DI High Speed Switching DS442KB	240376
D106	DI Zener GMTZJ6.8 CT77	240652
D151, 152	DI LB-602VKZ 7 Segment LED	240653
D153	DI Red LED EH56VC70F165	240654
D154, 155	DI Red LED 14D0687	240655
D501-504	DI Switching DSB15T	240010
D505-512	DI Rectifier DSF10TB-BT	240011
Transistors		
Q101, 102, 151-154, 157, 302-304, 502, 504, 507, 509, 512, 513, 701-703, 705, 708-713, 716-719, 801, 803, 804, 807	TR NPN Silicon 2SC1740SZ	50016
Q501, 506	TR PNP Silicon 2SB1143	240037
Q503	TR PNP Silicon 2SB1134	240038
Q505	TR PNP Silicon 2SA1706	240039
Q155, 156, 508, 704, 706, 707, 714, 715, 802, 810, 811	TR PNP Silicon 2SA933SZ	150874
Q510	TR Field Effect 2SK301(R)	151104
Q511	TR PNP Silicon 2SB976-Q.RZ or 2SBQ73-Q.RZ	240381
Q514	TR DTC144E	152042
Q801	TR Voltage Variable MV209 or BB409	240675
Q805	TR Field Effect 3SK73	240036
Q808, 809	TR PNP Silicon 2SB926	240676

Ref.	Description	Part No.
Coils & Inductors		
L101, 801	Fixed Inductor 100uH	154777
L306, 307	Fixed Inductor 12uH	240050
L701	Fixed Inductor 47uH	153791
L702	Fixed Inductor 15uH	151821
L703	Fixed Inductor 5.6uH	240053
L704, 705	Fixed Inductor 3.3uH	240054
L802	Fixed Inductor 4.7uH	240385
L803	Fixed Inductor 1.8uH	240046
L804, 806	Fixed Inductor 33uH	153789
L805	Fixed Inductor 1.2uH	240049
L807	Fixed Inductor 2.3uH	240656
Switches		
SW165-174	Tact Switch	240059
Variable Resistors		
VR101	VR 4.7kΩ	176105
VR301, 302	VR 220kΩ Type 1637AO	240386
VR501-504	VR 1kΩ Type 1637AO	240657
VR701	VR 10kΩ Type 1637AO	202207
VR801	VR 10kΩ	240658
Miscellaneous		
TU701	RF Converter MDLK30483A	240648
TU702	Tuner Pack	240649
CF301, 303, 801	Ceramic Filter 10.7MHz	240074
CF302, 304	Ceramic Filter 10.52MHz	240075
CF305, CD801	Discriminator 10.7MHz	240076
CF306	Discriminator 10.52MHz	240077
X101	Crystal 2MHz	240095
X801	Crystal Resonator 18.08MHz	240391
X802	Crystal Resonator 17.72MHz	240096
T501	Power Transformer TAM/OC222	240678
F501	Fuse 2A	240082
F502	Fuse 630mA	157669
F503	Fuse 1.25A	240083
OS151	Remote Receiver KEY-COOSU-4	240661
	Remote Control Handset	240387

Description	Ref.	Part No.
Electrolytic Capacitors		
1µF 50V	C[illegible] 322, 323, [illegible], 339, 380, 381	157563
1µF 50V NP	C104	153328
2.2µF 50V	C107[illegible], 340, 341, 817	157672
4.7µF 50V	C[illegible], 327, 334, 335	157565
10µF 16V	C110, 330, 331, 336, 337, 346, 347, 348-352, 360-368, 706, 718, 722, 725, 732, 733, 735, 815, 833, 834	157581
10µF 16V NP	C324, 325	240461
10µF 35V	C509	240662
47uF 16V	C728	172074
100µF 10V	C152, 506, 511, 701, 703	240463
100µF 16V	C505, 512, 825, 826	157568
100µF 25V	C507, 508	157569
220µF 10V	C116, 504	20029
220µF 16V	C117	240464
470µF 10V	C704, 707, 710, 729, 730	240466
470µF 16V	C150	157675
1000µF 35V	C502	240242
2200µF 16V	C503	240243
4700µF 25V	C501	240241
Tantalum Capacitors		
3.3µF	C342, 343	240489

Description	Ref.	Part No.
Carbon Resistors ½W		
330Ω	R512	176327
1kΩ	R507	240214
Carbon Resistors 1/5W or 1/6W		
36Ω	R714	240203
47Ω	R168, 733, 735, 828	152160
75Ω	R738	152163
100Ω	R151-157, 835	152166
150Ω	R709, 712, 713, 715, 725, 727, 728, 816	152168
160Ω	R759	240677
180Ω	R758	152169
220Ω	R748, 807	250137
270Ω	R383, 384, 427, 428, 710, 720, 830	240491
330Ω	R429, 430, 711, 721, 730, 751, 818	240492
470Ω	R112, 163, 164, 314, 315, 718, 719, 729, 817, 831, 832	152174
560Ω	R518	152175
680Ω	R745	240493
750Ω	R708	240494
820Ω	R704, 813, 814	152178
1kΩ	R360, 361, 387, 501, 503, 506, 508, 513, 524, 527-529, 701, 705, 706, 722-724, 742, 747, 749, 750, 752, 801, 804, 808, 819, 829, 837	152179
1.2kΩ	R309, 385, 386	152180
1.5kΩ	R167, 734, 841	178070
1.8kΩ	R520, 736, 744	152182
2kΩ	R352, 353	240208
2.2kΩ	R138, 423, 424, 504, 525, 802, 811	152183
2.7kΩ	R516	152184
3.3kΩ	R108, 111, 316, 317, 526, 753	152185
4.3kΩ	R823	240668
4.7kΩ	R105, 106, 131, 136, 137, 159, 161, 342, 343, 346, 347, 364, 365, 703, 810, 824	152188
5.1kΩ	R113, 717	176524
5.6kΩ	R109, 114, 318, 319, 368, 369, 415-422, 425, 426, 754	177966
6.8kΩ	R107, 110, 116, 322, 323, 379, 388, 825	152190
7.5kΩ	R702, 743	240495
10kΩ	R101-103, 120, 124-128, 134, 135, 141, 326, 327, 350, 351, 372-375, 389-392, 523, 739, 755, 803, 821, 822, 836	157637
11kΩ	R340, 341, 376, 377	240209
12kΩ	R840	152195
15kΩ	R320, 321, 378, 732, 761	152196
16kΩ	R366, 367	240206
18kΩ	R716, 731	152197
22kΩ	R119, 123, 160, 162, 328-331, 344, 345, 348, 349, 380, 381, 509, 510, 530, 531, 541, 805, 809, 812, 826, 827	240496
27kΩ	R115, 362, 363, 762	250138
30kΩ	R517	240497
33kΩ	R307, 310, 311, 401, 402, 815	249498
39kΩ	R118, 308, 332, 333, 407, 408	1420145
47kΩ	R158, 165, 166, 398-400, 403-406, 411-414, 511, 519, 521, 522, 707, 806	240499
100kΩ	R129, 746	240501
120kΩ	R515	240502
150kΩ	R514	240503
220kΩ	R334-337	157641
1MΩ	R117	240504
Fuseable Resistors		
15Ω 2W	R532	240217
120Ω 2W	R505	240669
1kΩ 1/5W	R533	240670

Description	Ref.	Part No.
Ceramic Capacitors		
15pF	C811, 816	201716
22pF	C102, 103, 709, 819	240225
33pF	C805, 820	150514
47pF	C382, 384, 807, 821	150515
51pF	C713	240238
68pF	C383, 385	175129
100pF	C716	240221
150pF	C712	240237
180pF	C715, 830	240239
200pF	C813	240234
270pF	C714	157667
330pF	C727, 809	240233
1000pF	C806, 831	240458
2200pF	C112, 113	152643
0.0022µF	C518-520	200975
0.0033µF	C832	240663
0.01µF	C111, 114, 115, 308, 310-313, 359, 369, 386, 387, 599, 737, 801-804, 808, 812, 814, 818, 822-824, 827	176755
0.022µF	C153, 513-517, 521-523	21027
0.047µF	C828, 829	152645
0.1µF 25V	C151, 302, 309, 332, 333, 510, 702, 731, 734, 736	240459
Film Capacitors		
1500pF	C314-321	240480
2700pF	C705	240481
3300pF	C328, 329	240482
4700pF	C344, 345	240483
0.001µF	C724	240664
0.0018µF	C726	240665
0.01µF	C105	240484
0.047µF 50V	C721	240666
0.068µF	C106	240485
0.1µF 50V	C720	240486
Carbon Resistors ¼W		
75Ω	R726, 757	240211
220Ω	R756	193589
330Ω	R502	10044
390Ω	R737	240508
680Ω	R130, 740	240509
10kΩ	R104, 122, 140, 142, 763	240511
15kΩ	R409, 410	10089
47kΩ	R397	240512
82kΩ	R324, 325	10107
4.3MΩ	R338, 339	240667
5.1MΩ	R354, 355	240212
10MΩ	R356, 357	240213